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BOUGAINVILLEA BLIGHT

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In the late summer of 1968, following a period of rainy weather in Ft. Myers, Florida, Bougainvillea plants of the cultivar Barbara Karst, growing in gallon cans located outdoors in a nursery, were observed showing symptoms of foliage blight (1,2). Some plants of an unknown cultivar appeared free from infection indicating resistance among some cultivars of Bougainvillea. Of four cultivars tested for resistance to blight 'Sanderiana' (purple) was highly resistant, 'After Glow' moderately resistant, and 'Barbara Karst' and 'Gold' highly susceptible.

The cause of Bougainvillea blight is Phytophthora parasitica Dast., which is a destructive fungus pathogen known to have a wide host range (6). Some of the more important hosts are tomato, Lycopersicon esculentum (4,10); citrus, Citrus spp. (3,7); petunia, Petunia hybrida (8); parsley, Petroselinum crispum (10); papaya, Carica papaya (11); snapdragon, Antirrhinum majus (5); watermelon, Citrullus vulgaris (9); corn, Zea mays (12); carnation, Dianthus caryophyllus; pineapple, Ananas comosus; hibiscus, Hibiscus rosa-sinensis; and eggplant, Solanum melongena (10).

SYMPTOMS. The first symptoms of blight are seen as ashy green, irregular, water-soaked spots which usually start at the tip or margin of younger leaves and later become dark green or black (Fig. 1A). Once infection is established, disease development is rapid under conditions of high humidity and high temperatures. In 12 to 24 hours following initial infection, leaves can become completely blighted and are thus flaccid, blackened, and curled (Fig. 1A). Floral bracts are even more susceptible than leaves. Symptoms on infected bracts occur as tan necrotic spots of collapsed tissue having a netlike appearance (Fig. 1B). Infection often progresses along the petioles into young green stems where lesions occur as brown,

Fig. 1. Bougainvillea blight: A) blackened leaf spots and completely blighted leaves and stem; B) infected floral bracts with a reticulate appearance.

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slightly sunken linear spots progressing in both directions, and it soon encompasses the entire stem, which blackens, collapses, and droops. Older, mature leaves were never found infected.

CONTROL. Of three fungicides tested for the control of Bougainvillea blight, Daconil 2787 (75% WP) at the rate of 1 and 1/2 lb/100 gal was most effective; Captan (50% WP) at the rate of 2 lb/100 gal was moderately effective; and fixed basic copper sulfate (53% metallic) at the rate of 2 lb/100 gal least effective (2).

Literature Cited

1. Alfieri, S. A., Jr. 1970. Bougainvillea blight caused by Phytophthora para-sitica. Phytopathology 60:581 (Abstr.)
2. Alfieri, S. A., Jr. 1970. Bougainvillea blight, a new disease caused by Phytophthora parasitica. Phytopathology 60:In press.
3. Carpenter, J. B. & J. P. Furr. 1962. Evaluation of tolerance to root rot caused by Phytophthora parasitica in seedlings of citrus and related genera. Phytopathology 52:1277–1285.
4. Fulton, J. P. & N. P. Fulton. 1951. Phytophthora root rot of tomato. Phytopathology 41:99–101.
5. Gill, D. L. 1960. A stem and branch rot of snapdragon. Plant Dis. Reptr. 44: 946–947.
6. Hickman, C. T. 1958. Phytophthora plant-destroyer. Trans. Brit. Mycol. Soc. 41:1–13.
7. Klotz, L. J., T. A. DeWolfe, & P. P. Wong. 1958. Decay of fibrous roots of citrus. Phytopathology 48:616–622.
8. Miller, H. N. & K. A. Noegel. 1967. Phytophthora crown rot of petunia in Florida. Proc. Florida State Hort. Soc. 80:449–451.
9. Norton, D. C. & D. W. Rosberg. 1954. Watermelon fruit rot caused by Phytophthora parasitica. Plant Dis. Reptr. 38:854.
10. Obrero, F. C. & Minoru Aragaki. 1965. Some factors influencing infection and disease of Phytophthora parasitica Dast. on tomato. Plant Dis. Reptr. 49:327–331.
11. Parris, G. K. 1942. Phytophthora parasitica on papaya (Carica papaya) in Hawaii. Phytopathology 32:314–320.
12. Ullstrup, A. J. 1948. The occurrence of Phytophthora parasitica on corn. Phy-topathology 38:1029–1031.